Australian Bureau of Statistics

# 1345.4 - SA Stats, Feb 2008

Previous ISSUE Released at 11:30 AM (CANBERRA TIME) 26/02/2008

# Summary

## Contents

### International Merchandise Trade
Includes: **Exports and Imports**
**21/12/2007** | South Australia's value of exports (in original terms) in October 2007 ($781m) was virtually the same as in October 2006 ($780m). The value of South Australian merchandise imports increased to $636m in October 2007 from $573m in September 2007 and $573m in August 2007.

### Housing Finance
Includes: **Housing Finance Commitments**
**21/12/2007** | The trend estimate of the total value of housing finance commitments (owner occupation) in South Australia in October 2007 was $976m, an increase of 6.7% from the value in October 2006.

### Water
Includes: **Winter Rainfall, Adelaide's Reservoir levels**
**21/12/2007** | Spring rainfall across South Australia was mostly below average with some areas recording the lowest totals on record.

### Tourist Accommodation
Includes: **Tourist Accommodation**
**21/12/2007** | Room occupancy rates for hotels, motels and serviced apartments with fifteen or more rooms for the June 2007 quarter were 64.9% for South Australia in trend terms.

# In This Issue

## IN THIS ISSUE

This month's articles focus on the mining industry in South Australia from 1994-95 to 2006-07 and water supply in South Australia from 2000-01 to 2004-05.

The first article presents an overview of the South Australian mining industry using data from multiple sources. Unless otherwise stated, the mining industry in this article is defined by Division B of the Australian and New Zealand Standard Industrial Classification, 1993 (cat. no. 1292.0.15.001).

Key points from the article South Australia's Mining Industry:

- The South Australian mining industry contributed 3.9% to Gross State Product in 2006-07, down from 4.5% in 1994-95.
- The main commodities produced are copper, crude oil, natural gas and uranium oxide.
- Mining related commodities constituted 26% of the value of all exports from South Australia in 2006-07.
- Approximately 11,175 people were employed in the mining industry in 2006-07, representing 1.5% of total South Australian employment.
- Average weekly full time total earnings for workers in the mining industry was $1,831 in August 2007, compared to $1,065 for the average weekly full time earnings in South Australia.
- Expenditure on exploration for minerals and petroleum in South Australia increased substantially in 2006-07.

In the article, South Australia's Mining Industry, data have been rounded.

The second article examines South Australia’s supply of water for the years 2000-01 and

2004-05 with reference to strategies for meeting Adelaide’s future water requirements. The main source of data is the ABS publication Water Account, Australia, 2004-05 (cat. no. 4610.0) which provides water supply and use details for all states and territories for the periods 2000-01 and 2004-05.

Key points from the article:

- In 2004-05, 1,352 GL of water was extracted from the environment in South Australia, slightly less than that extracted in 2000-01 (1,380 GL).
- In 2004-05, the Agriculture industry used 60% of all water that was self-extracted from the environment in South Australia.
- Between 1996-97 and 2004-05, the supply of reuse water in South Australia more than doubled (from 8 GL to 22 GL).
- It is estimated that 80% (70 GL of 90 GL) of wastewater generated in Adelaide each year is discharged to the sea.
- In 2004-05, approximately 15% (71 GL) of South Australia's distributed water was lost through the supply infrastructure (underground pipe leakages, burst mains, evaporation from open channels) theft and customer meter errors.
- South Australia's leakage rate is recognised as one of the lowest in the world (Water Proofing Adelaide a Thirst for Change 2005-2025 (WPA 2005a)).

Other Explanatory Notes are not included in SA Stats in the form found in other ABS publications. Readers are directed to the Explanatory Notes contained in related ABS publications referenced in the feature article.

If you have any comments about this product please contact James Inglis on ph: (08) 8237 7405 or alternatively e-mail <sa.statistics@abs.gov.au>.

## Articles

**South Australia's Mining Industry**
This article is an overview of the mining industry in South Australia including the types of commodities produced, the value of the industry, employment, wages, exploration and capital expenditure using data from multiple sources. The article presents an analysis of the industry from 1994-95 to 2006-07.

**Water Supply in South Australia**
This article examines South Australia’s supply of water for the years 2000-01 and 2004-05 with reference to strategies for meeting Adelaide’s future water requirements. The main source of data is the ABS publication Water Account, Australia, 2004-05 (cat. no. 4610.0) which provides water supply and use details for all states and territories for the periods 2000-01 and 2004-05.

## Demography

**DEMOGRAPHY**

### ESTIMATED RESIDENT POPULATION

The preliminary estimated resident population (ERP) for South Australia was 1,584,513 at 30 June 2007, an increase of 16,309 persons (1.0%) since 30 June 2006.

All states and territories recorded population growth over the 12 months ended 30 June 2007. Western Australia recorded the largest growth rate (2.3%) and Tasmania recorded the lowest growth rate (0.7%).

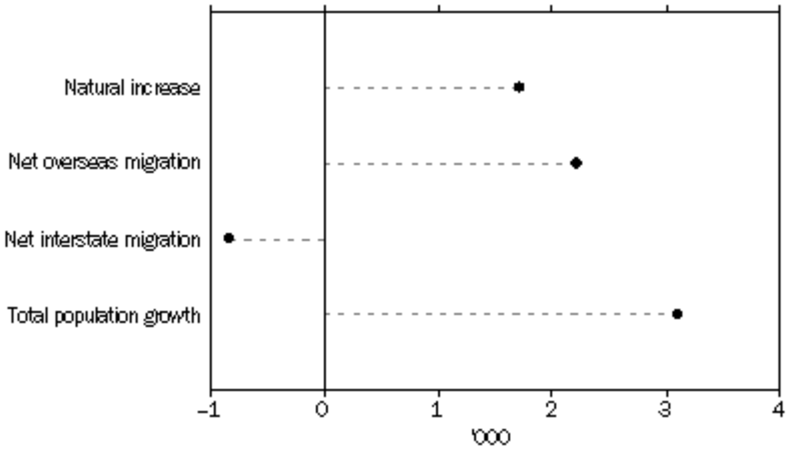
For the 12 months ending 30 June 2007, South Australia recorded a natural increase (i.e. the net of births and deaths) of 6,726 persons. Net overseas migration provided a gain of 13,146 persons in the same period while net interstate migration realised a loss of 3,563 persons.

In the June 2007 quarter South Australia recorded a net natural increase of 1,714 persons and a gain in net overseas migration of 2,219 persons. For every quarter since June 1981, with the exception of June 1993 (-217 persons) and June 1994 (-5), there has been a net overseas migration gain in South Australia's ERP. Net interstate migration in the June 2007 quarter resulted in a loss of 827 persons from South Australia. South Australia has had a loss in net interstate migration in every quarter since June 1992, with the exception of September 2002 when there was a small net interstate migration gain of 100 persons.

Nationally, the preliminary ERP was 21,017,222 at 30 June 2007, an increase of 315,734 persons (1.5%) since 30 June 2006. For the year ended 30 June 2007, Australia recorded a natural increase in population of 138,117 persons; net overseas migration resulted in a gain of 177,617 people.

In the June 2007 quarter Australia's population recorded a natural increase of 31,874 persons. The net overseas migration for Australia resulted in a gain of 36,400 persons.

**QUARTERLY POPULATION CHANGE, COMPONENTS, June quarter 2007, South Australia**




Source: Australian Demographic Statistics (cat. no. 3101.0)

## State Accounts

### STATE ACCOUNTS

South Australia's September 2007 quarter State Final Demand in chain volume (trend) terms was $17,434m and Australia's Domestic Final Demand was $263,460m.

The 0.3% increase in South Australia's State Final Demand from the previous quarter was less than the increase observed in the national Domestic Final Demand (1.2%). Of the other states and territories the strongest growth for the quarter was reported in Western Australia (up 2.0%), followed by Queensland (up 1.6%).

In the September 2007 quarter South Australia's State Final Demand comprised 6.6% of Australian Domestic Final Demand, compared to 7.2% for the September 1997 quarter. The proportional contribution to the Australian Domestic Final Demand of New South Wales, Victoria, and Tasmania also decreased over this time period while that of the other states and territories (Queensland, Western Australia, Northern Territory and Australian Capital Territory) increased. The most notable decrease occurred in New South Wales, with a fall from a 34.0% share to 31.1% while Queensland increased its share of Australian Domestic Final Demand from 17.7% to 20.2%.

**STATE FINAL DEMAND, Chain volume measures,**
**Percentage change from previous quarter, South Australia**


Source: Australian National Accounts: National Income, Expenditure and Product (cat. no. 5206.0)

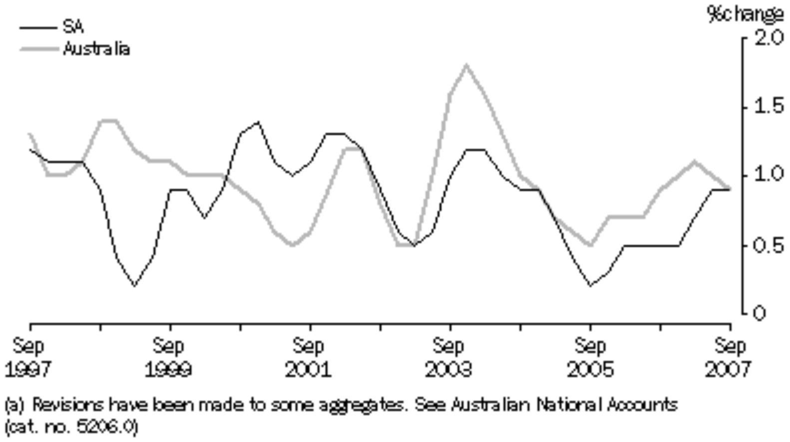
## HOUSEHOLD FINAL CONSUMPTION EXPENDITURE (HFCE)

In chain volume (trend) terms, South Australia's September 2007 quarter HFCE was $10,259m (7.1% of the national total of $145,085m). This represented a 0.9% increase from the June 2007 quarter for both South Australia and Australia.

The largest increases in expenditure in South Australia for the September quarter were for Recreation and culture (up 2.6% from June qtr 2007), followed by Furnishings and household equipment (up 2.1%). For Australia, the largest increase was also for Recreation and culture (up 2.0% from June qtr 2007) followed by Clothing and footwear (up 1.9%). The only expenditure component to show a decrease in the September quarter 2007 was Food (down 0.3%).

Comparing the September 2007 quarter and the September 2006 quarter, HFCE increased by 3.0% for South Australia and 4.1% for Australia. The expenditure components which showed the largest increases for South Australia during this period were Furnishings and household equipment (up 11.2%) and Purchase of vehicles (up 9.4%). The expenditure components which showed the largest increase for Australia were Purchase of vehicles (up 9.9%) and Furnishings and household equipment (up 6.9%).

**HOUSEHOLD FINAL CONSUMPTION EXPENDITURE(a), Trend, Chain volume measures, Percentage change from previous quarter**




Source: Australian National Accounts: National Income, Expenditure and Product (cat. no. 5206.0)

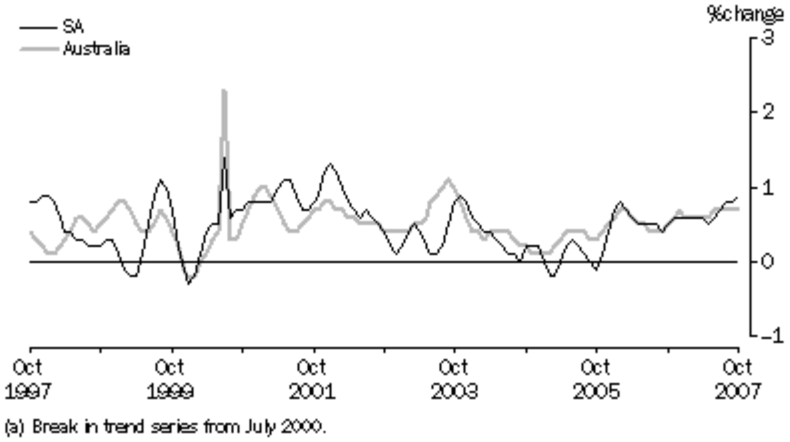
# Consumption

## CONSUMPTION

### RETAIL TURNOVER

The October 2007 trend estimate for South Australia's retail turnover was $1,369.4m, while the estimate for Australia was $19,928.2m. This represents a 0.9% increase in turnover across all retail industries for South Australia from the previous month, and a 0.7% increase nationally.

**RETAIL TURNOVER(a), Current prices, Trend, Percentage change from previous month**



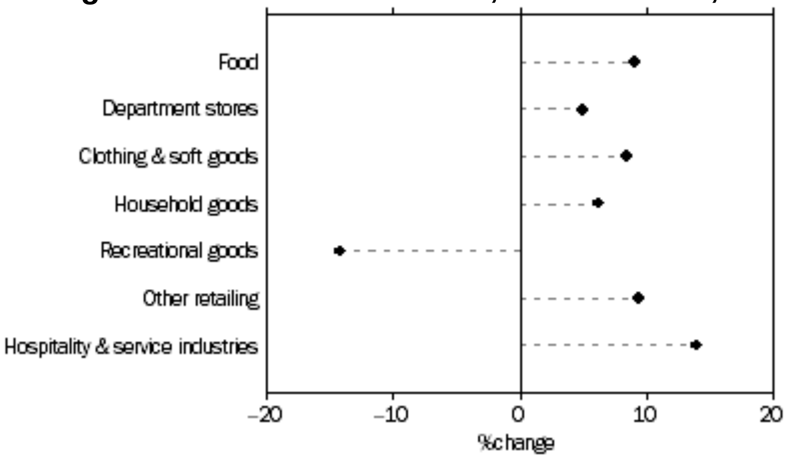

Source: Retail Trade, Australia (cat. no. 8501.0)

Comparing October 2007 with October 2006, retail turnover (trend) increased by 8.2% for South Australia and 8.0% for Australia.

Over the same period, the two South Australian industry groups with the largest percentage

increases in retail turnover (trend) were Other retailing, rising by 9.3% (to $133.7m), and Food, rising by 9.1% (to $577.4m). The South Australian industry group which reported the largest decrease in retail turnover (trend) was Recreational goods retailing, down by 14.2% to $47.0m.

**RETAIL TURNOVER BY INDUSTRY GROUP, Current prices, Trend, Percentage change over last twelve months, October 2007, South Australia**

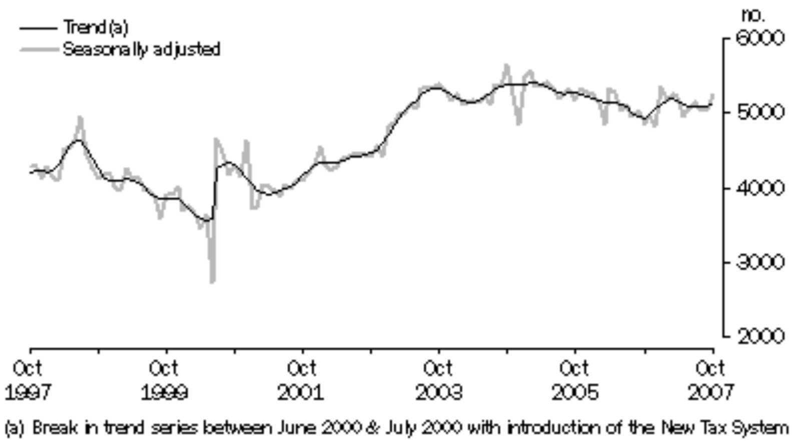



Source: Retail Trade, Australia (cat. no. 8501.0)

### NEW MOTOR VEHICLE SALES

In October 2007, 3,072 new passenger vehicles and 5,135 new vehicles in total (in trend terms) were sold in South Australia. Corresponding sales for Australia were 52,028 and 88,216.

**NEW MOTOR VEHICLE SALES, South Australia**




Source: Sales of New Motor Vehicles, Australia (cat. no. 9314.0.)

## Investment

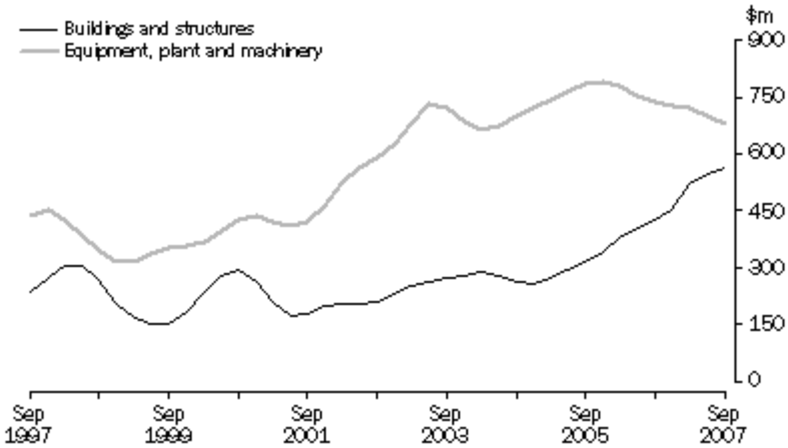
### INVESTMENT

### PRIVATE NEW CAPITAL EXPENDITURE

Between the June 2007 and the September 2007 quarters, the South Australian chain volume (trend) estimate of private new capital expenditure decreased by 0.3% to $1,244m. Expenditure on Equipment, plant and machinery decreased by $21m (or 3.0%) to $679m, while expenditure on Buildings and structures increased by $17m (or 3.1%) to $565m. For the same period, private new capital expenditure for Australia increased by 1.2% to $20,406m, with both expenditure on Buildings and structures and Equipment, plant and machinery increasing (by 0.6% and 1.8% respectively).

Comparing the September 2007 quarter with the September 2006 quarter, South Australia's total private new capital expenditure increased by 7.0%. Expenditure on Equipment, plant and machinery decreased by 7.7% while expenditure on Buildings and structures grew by 32.0%.

**PRIVATE NEW CAPITAL EXPENDITURE, Trend, Chain volume measures, South Australia**




Source: Private New Capital Expenditure and Expected Expenditure, Australia (cat. no. 5625.0)

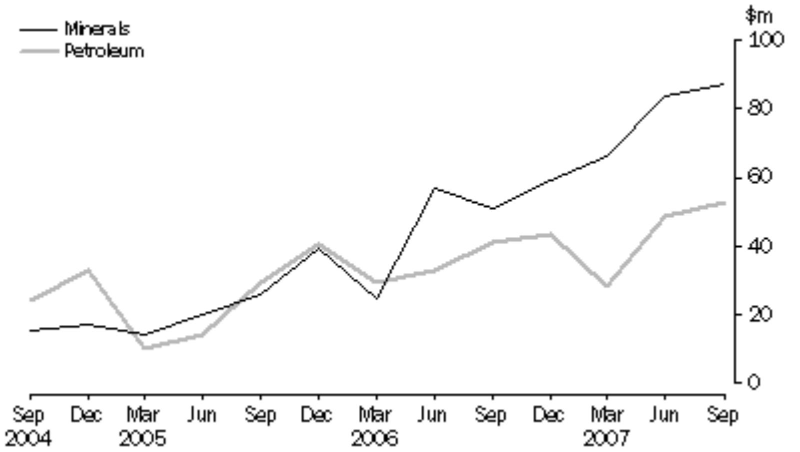
## MINERAL AND PETROLEUM EXPLORATION EXPENDITURE

The value of mineral exploration expenditure in South Australia in September 2007 quarter was $87.2m, up 3.7% from the June quarter 2007. From September 2006 to September 2007, the value of mineral exploration expenditure in South Australia has increased 70.6% from $51.1m to $87.2m. Over the same period, Australian expenditure on mineral exploration increased 42.8% from $394.6m in September 2006 to $563.4m in September 2007.

Of the $87.2m mineral exploration expenditure in South Australia in September 2007 quarter , $27.4m was for uranium exploration, $24.4m for copper and $14.6m was for gold.

The September 2007 quarter expenditure on petroleum exploration in South Australia ($52.7m) was 28.2% higher than in September quarter 2006 ($41.1m). Nationally, expenditure on petroleum exploration increased from $488.6m in the September quarter 2006 to $698.3m in the September 2007 quarter (an increase of 42.9%). In the September quarter 2007, 78.2% of all petroleum exploration expenditure in Australia was in Western Australia.

**MINERAL AND PETROLEUM EXPLORATION EXPENDITURE, Original, South Australia**



Source: Mineral and Petroleum Exploration, Australia (cat. no. 8412.0)

## Construction

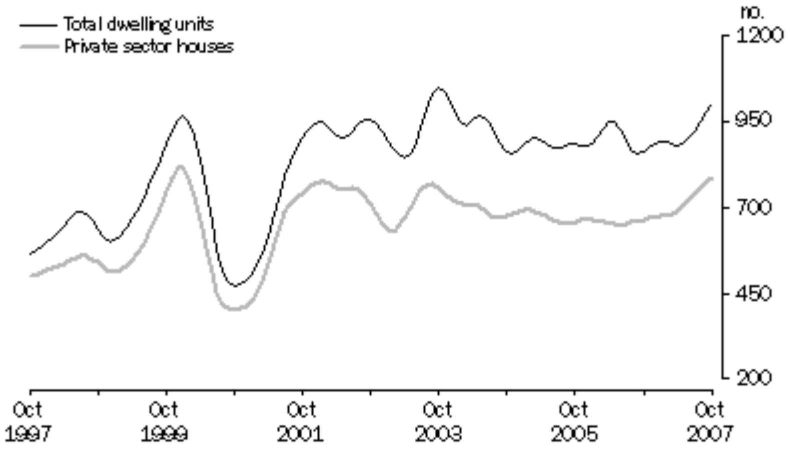
### CONSTRUCTION

#### BUILDING APPROVALS

In October 2007, the total number of dwelling units approved in South Australia (in trend terms) was 1,002. This was the sixth consecutive month where the number of dwelling units approved increased. Nationally, the total number of dwelling units approved (in trend terms) was 13,483.

The trend estimate for the number of private sector houses approved in South Australian in October 2007 was 787. This was the sixteenth consecutive month where the number of private sector houses approved increased.

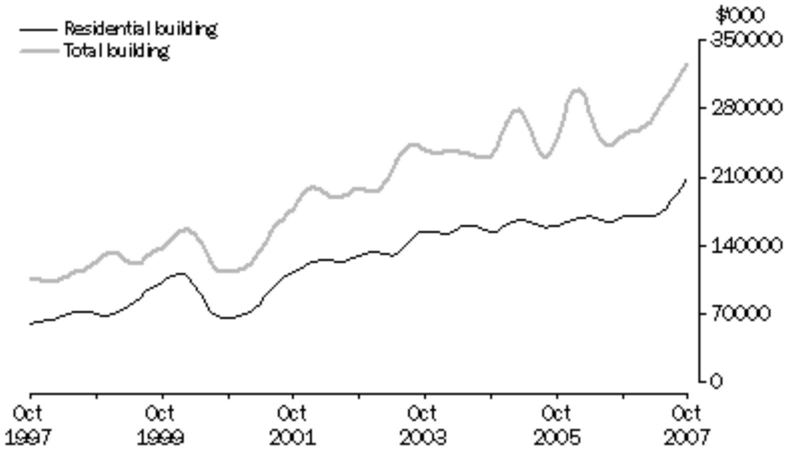
**DWELLING UNITS APPROVED, Trend, South Australia**



Source: Building Approvals, Australia (cat. no. 8731.0)

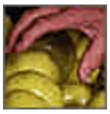
In October 2007, the total value of building work approved (in trend terms) in South Australia was $325.6m. The value of Residential building work approved was $208.7m.

**VALUE OF BUILDING APPROVED, Trend, South Australia**



Source: Building Approvals, Australia (cat. no. 8731.0)

# Prices

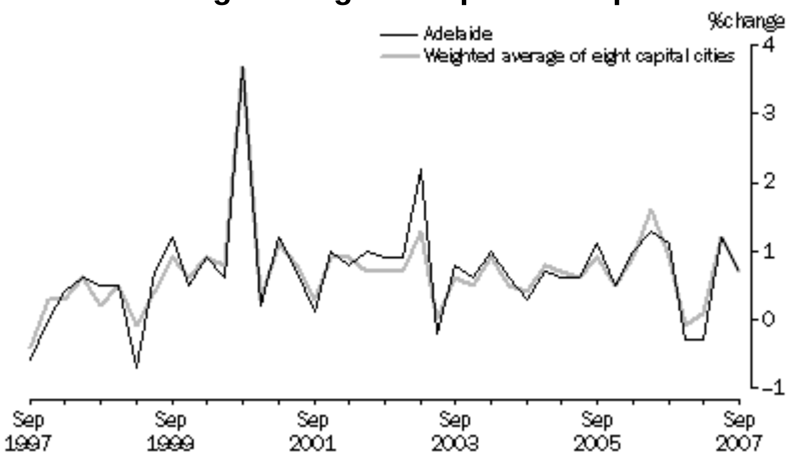


## PRICES

### CONSUMER PRICE INDEX

The all groups consumer price index (CPI) for Adelaide increased by 1.4% in the 12 months to September 2007, compared with a 1.9% rise in the weighted average of eight capital cities. Both Adelaide's CPI and the weighted average of eight capital cities rose by 0.7% in September 2007.

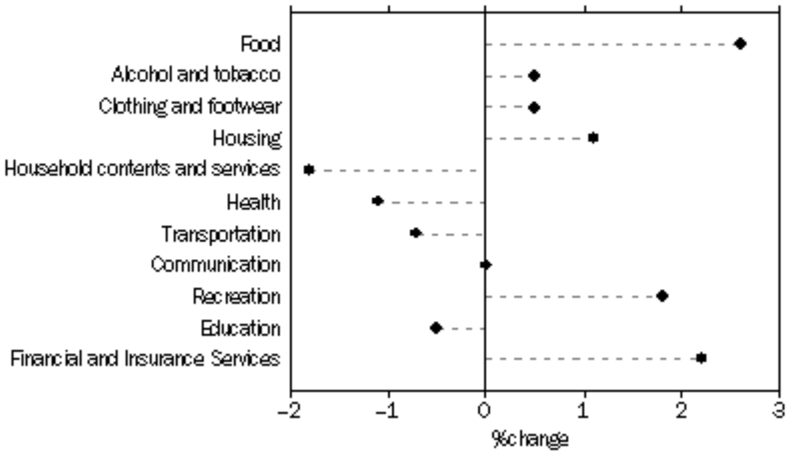
**CONSUMER PRICE INDEX - ALL GROUPS, Original, Percentage change from previous quarter**



Source: Consumer Price Index, Australia (cat. no. 6401.0)

The largest percentage increases in prices from the previous quarter were Food (2.6%) and Financial and Insurance Services (2.2%). The largest percentage decreases were Household contents and services (-1.8%) and Health (-1.1%).

**CPI MOVEMENT, ADELAIDE, Original - SEPTEMBER 2007 QUARTER, Percentage change from previous quarter**



Source: Consumer Price Index, Australia (cat. no. 6401.0)

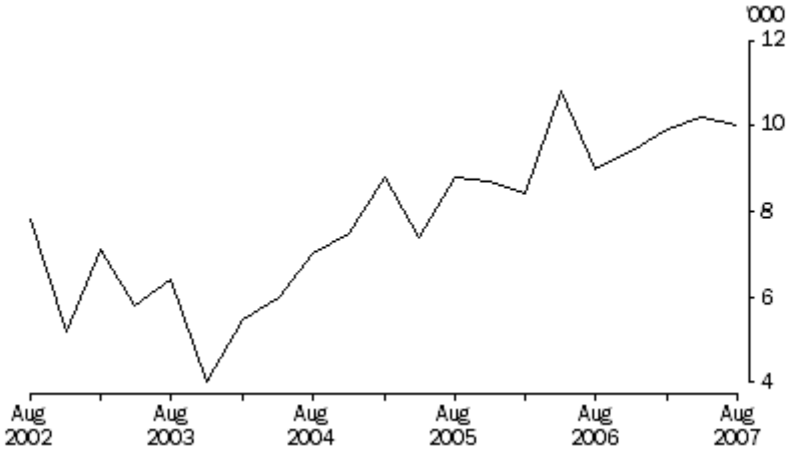
# Labour Force

## LABOUR FORCE

### JOB VACANCIES

In original terms, South Australia's total number of job vacancies decreased to about 10,000 in August 2007 from 10,200 in May 2007. The August 2007 vacancies were 11% higher than in August 2006. Australia-wide, job vacancies increased from 166,500 in May 2007 to 173,100 in August 2007. Australian job vacancies in August 2007 were 12% higher than in August 2006.

**JOB VACANCIES, Original, South Australia**



Source: Job Vacancies, Australia (cat. no. 6354.0)

### EMPLOYED PERSONS

In trend terms, the total number of persons employed in South Australian in November 2007 was 771,900. This was a 1.7% increase on the number of persons employed in November 2006 (758,900). The total number of persons employed in Australia in November 2007 was 10,559,800, a 2.5% increase on the number employed in November 2006 (10,297,700).

The number of males employed full-time in South Australia in November 2007 was 347,300 (in trend terms), up 0.5% from November 2006. The number of females employed full-time in South Australia in November 2007 was 185,900 (in trend terms), up 6.5% from November 2006.

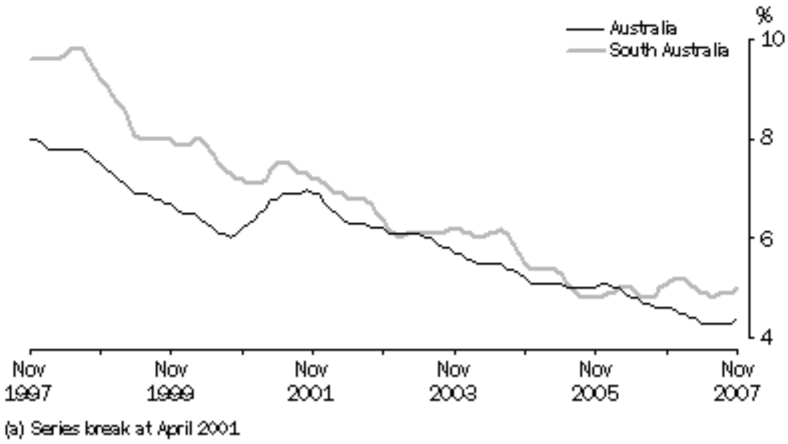
**TOTAL EMPLOYED PERSONS(a), Trend, South Australia**


Source: Labour Force, Australia (cat. no. 6202.0)

## UNEMPLOYMENT

The trend estimate unemployment rate for South Australia increased to 5.0% in November 2007, after being steady at 4.9% for the previous three months. Australia's unemployment rate increased to 4.4% in November 2007, after being steady at 4.3% for the previous six months.

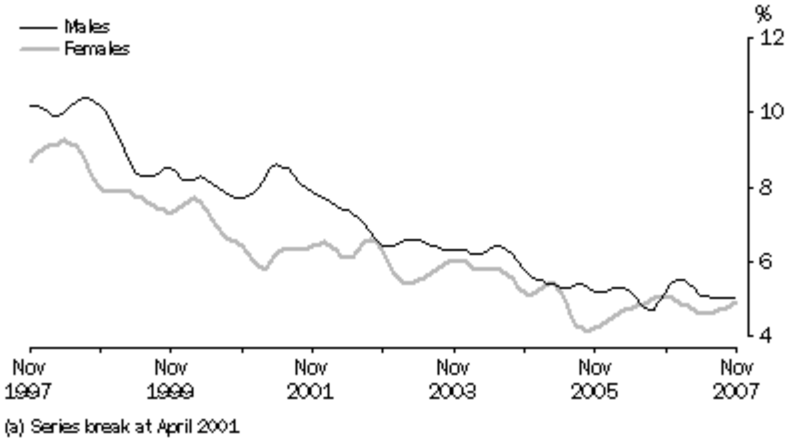
**UNEMPLOYMENT RATE(a), Trend, South Australia and Australia**




Source: Labour Force, Australia (cat. no. 6202.0)

For South Australia, the trend unemployment rate for females increased to 4.9% in November 2007 up from 4.8% in October 2007. For males, the unemployment rate remained steady at 5.0%.

**UNEMPLOYMENT RATE(a), Trend, South Australia**

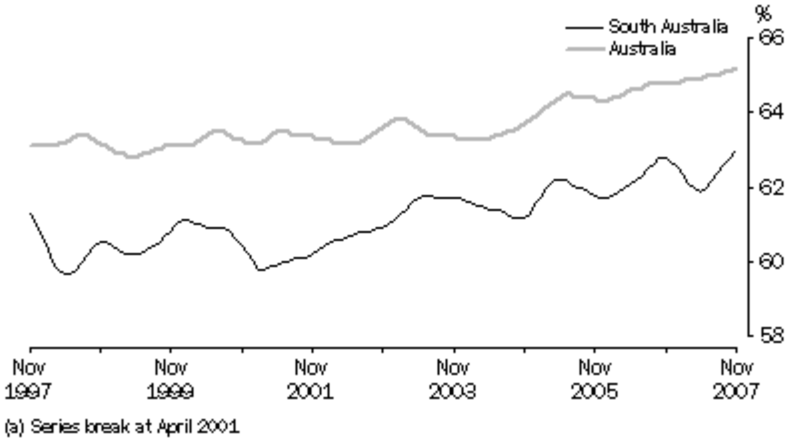



Source: Labour Force, Australia (cat. no. 6202.0)

## PARTICIPATION RATE

The trend estimate of the participation rate for South Australia in November 2007 was 63.0%, up from 62.8% in October 2007. In the ten year period from November 1997, the lowest estimate was 59.7% in May and June of 1998. Australia's trend participation rate increased slightly to 65.2% in November 2007 from 65.1% in October 2007. The lowest participation rate reported for Australia for the ten year period from November 1997 was 62.8% in April and May of 1999.

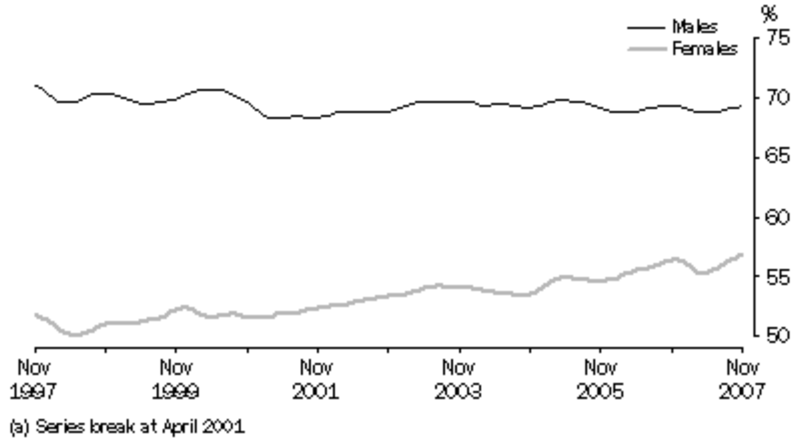
**PARTICIPATION RATE(a), Trend, South Australia and Australia**




Source: Labour Force, Australia (cat. no. 6202.0)

For South Australia, the trend participation rate for females was 56.9% in November 2007, up from 56.6% in October 2007. Nationally, the female participation rate was steady at 58.1% in November 2007. The participation rate for South Australian males increased to 69.4% in November 2007, up from 69.2% in October 2007. The Australian participation rate for males has been consistently higher than that for South Australia, and was steady at 72.4% in November 2007.

**PARTICIPATION RATE(a), Trend, South Australia**




Source: Labour Force, Australia (cat. no. 6202.0)

# Incomes

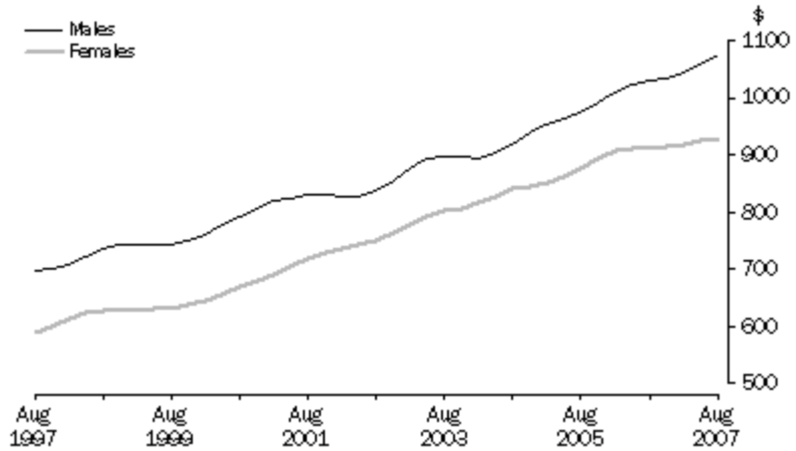
## INCOMES

### AVERAGE WEEKLY EARNINGS

The trend estimate of average weekly (ordinary time) earnings for full-time adult persons in South Australia increased by 3.6% to $1,026.60 in the 12 months to August 2007. Nationally, the corresponding increase was greater at 5.0% (up to $1,103.60).

For South Australia, the trend estimate of average weekly (ordinary time, full-time adult) earnings rose by 4.5% for males and 1.5% for females over the 12 months to August 2007.

**AVERAGE WEEKLY EARNINGS, FULL-TIME ADULT ORDINARY, Trend, South Australia**




Source: Average Weekly Earnings, Australia (cat. no. 6302.0)

At August 2007, male average weekly earnings ($1,076.40) in South Australia were 16.2% higher than the corresponding female earnings ($926.20). Nationally, in August 2007 male average weekly earnings ($1,172.20) were 19.5% higher than the female earnings ($980.70).

# International Merchandise Trade

## INTERNATIONAL MERCHANDISE TRADE

### EXPORTS AND IMPORTS

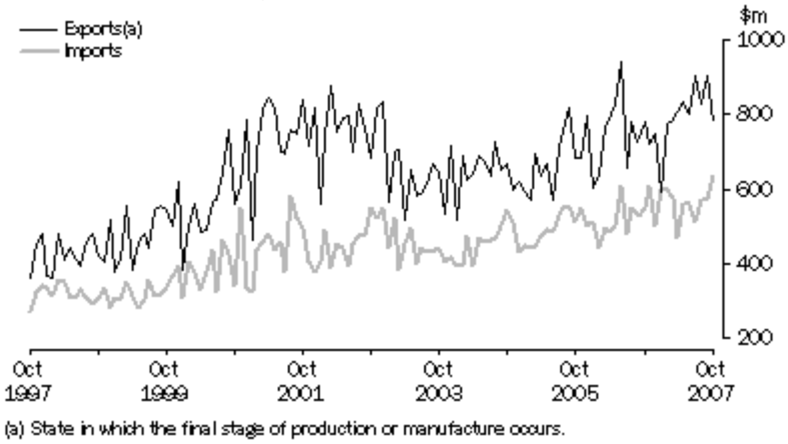
South Australia's value of exports (in original terms) in October 2007 ($781m) was virtually the same as in October 2006 ($780m). The highest reported increases in value of exports over this period were for Wine (up $57m, or 42%) and Metals and metal manufactures (up $49m, or 45%). The highest declines in value were reported for the exports of Road vehicles, parts and accessories (down $65m, or 39%) and Wheat (down $22m, or 61%).

The value of Australian merchandise exports for October 2007 ($13,510m) was 7.8% less than for October 2006.

The value of South Australian merchandise imports increased to $636m in October 2007 from $573m in September 2007 and $573m in August 2007. In October 2006 the state's merchandise imports amounted to $548m.

The value of Australian merchandise imports for October 2007 was $17,403m, a 6.5% increase from October 2006.

**VALUE OF MERCHANDISE EXPORTS AND IMPORTS, Original, South Australia**




Source: International Trade in Goods and Services, Australia (cat. no. 5368.0)

# Housing Finance

## HOUSING FINANCE

### HOUSING FINANCE COMMITMENTS

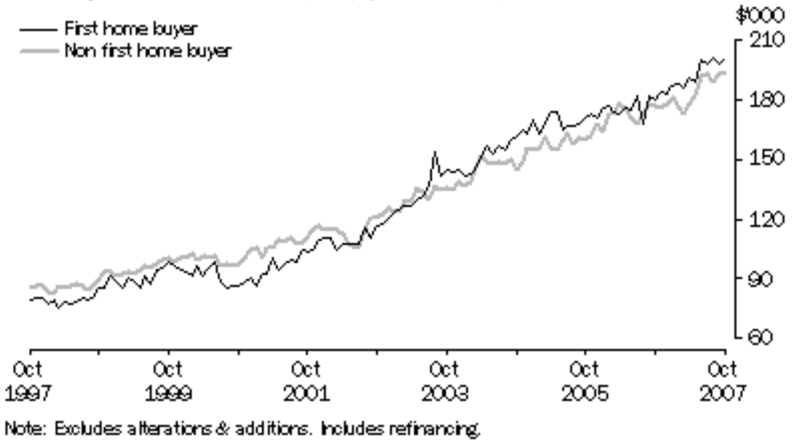
The trend estimate of the total value of housing finance commitments (owner occupation) in South Australia in October 2007 was $976m, an increase of 6.7% from the value in October 2006. Nationally, for the same period, the increase was slightly higher at 8.0% (to a total of $15,136m).

**HOUSING FINANCE COMMITMENTS (OWNER OCCUPATION), South Australia**


Source: Housing Finance, Australia (cat. no. 5609.0)

Since October 1997, the average home loan commitment for owner occupied dwellings in South Australia has more than doubled from $84,500 to $194,200 in October 2007. In October 2007 the average loan size for first home buyers was $201,500, which was 4.4% greater than the average loan size of $193,000 for non-first home buyers. The average home loan commitment for owner occupied dwellings in Australia in October 2007 was $240,300.

**HOUSING FINANCE COMMITMENTS (OWNER OCCUPATION), Original, Average Loan Size by Type of Buyer, South Australia**




Source: Housing Finance, Australia (cat. no. 5609.0)

# Water

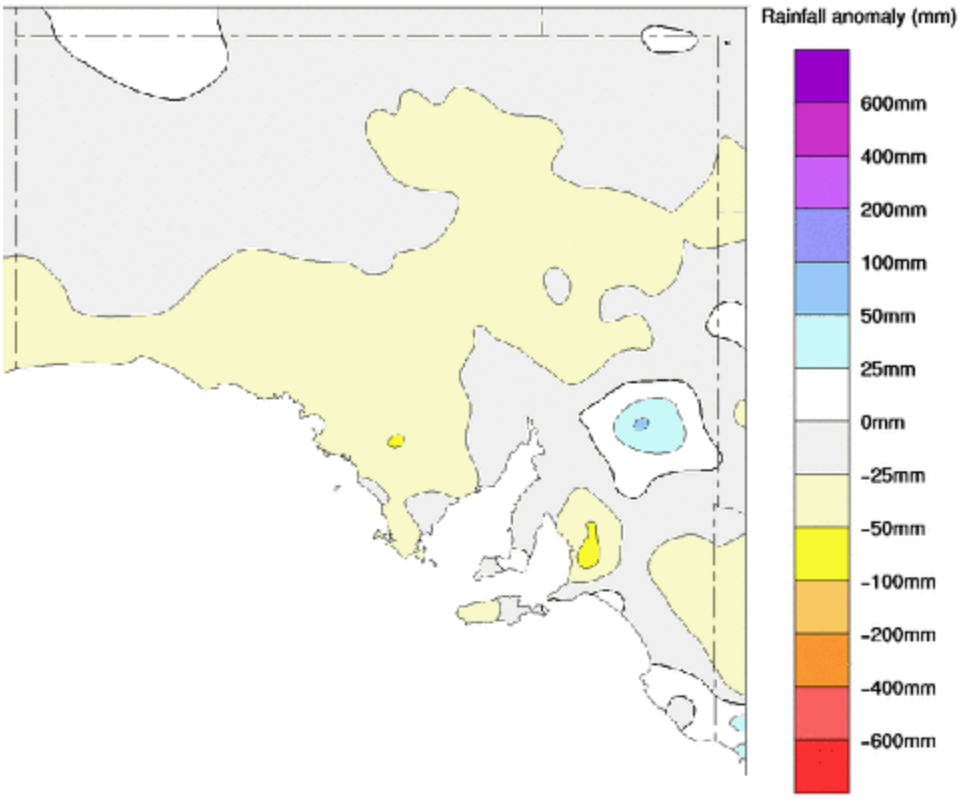
**WATER**

## WINTER RAINFALL

The Bureau of Meterology's Climate Summary for Spring 2007 reported that the season's rainfall was mostly below average to very much below average with some areas recording the lowest totals on record. The Pastoral Districts reported totals that were generally below average apart from some parts of the far northwest. In the Agricultural areas rainfall was patchy being near or above average over many areas, particularly the Mid North and Flinders districts, parts of Yorke Peninsula and southern coastal areas, but below average to very much below average over remaining areas.

On October 1, Adelaide's water restrictions were eased to allow for drippers and hand-held watering one day a week.

**SPRING RAINFALL ANOMALY MAP (September to November 2007), South Australia, Product of the National Climate Centre**

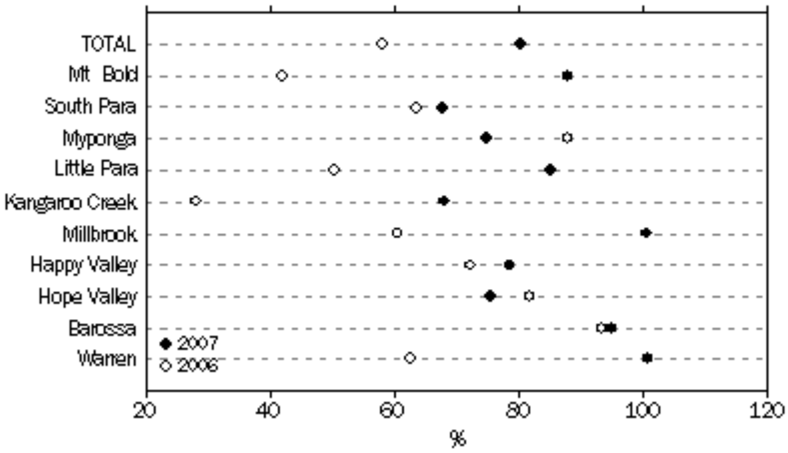



Source: 3-monthly rainfall anomalies for South Australia, Australian Bureau of Meteorology


## RESERVOIR LEVELS

The total water storage in Adelaide's reservoirs at 30 November 2007 (the end of winter and beginning of spring) was 80% of capacity, compared with 57% at the same time in 2006.

**ADELAIDE'S RESERVOIR LEVELS, as a percentage of capacity, 30 November 2007**



Source: SA Water, daily reservoir levels

# Tourist Accommodation

## TOURIST ACCOMMODATION

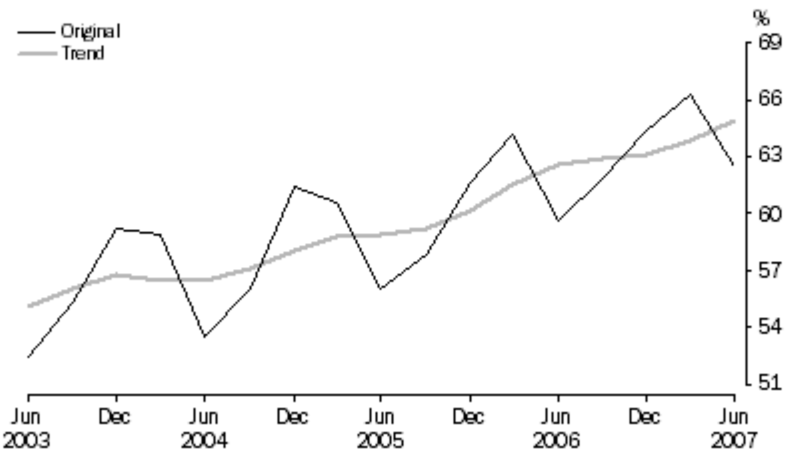
The total takings from all forms of tourist accommodation in South Australia in the June 2007 quarter were $101.6 million, which was 4.8% of the Australian total of $2,122.9 million. For the year ended June 2007, total tourist accommodation takings in South Australia were $414.2 million, or 4.6% of the Australian total. The South Australian takings had increased by 8.7% over those for the year ended March 2006.

Tourist guest arrivals at South Australian hotels, motels and serviced apartments with five or more rooms and at visitor hostels for the year ended June 2007 amounted to 2,512,300 persons, or 5.5% of the Australian total, and 5.9% more than for the year ended June 2006.

Hotels, motels and serviced apartments with fifteen or more rooms account for more than three-quarters of the takings for all types of tourist accommodation in both South Australia and Australia. For the year ended June 2007, takings from this type of accommodation in South Australia were $319.7 million, or 77.2% of the total tourist accommodation takings. Similarly, this type of accommodation caters for over three-quarters of the guest arrivals, with 2,191,500 (or 87.2% of all guests) being received in South Australia in the year ended June 2007.

Room occupancy rates for hotels, motels and serviced apartments with fifteen or more rooms for the June 2007 quarter were 64.9% for South Australia in trend terms.

**HOTELS, MOTELS AND SERVICED APARTMENTS WITH 15 OR MORE ROOMS, Room occupancy rate, by quarter - Original and Trend series, South Australia**




Source: Tourist Accommodation, Small Area Data, South Australia - Electronic Delivery, Jun 2007 (cat. no. 8635.4.55.001)

# Index of Articles

| **Issue** | **Article Title** |
|---|---|
| **2008** | |
| Feb 2008 | South Australia's Mining Industry |
| | Water Supply in South Australia |
| Jan 2008 | Labour Force Underutilisation and the Underemployed in South Australia |
| | Water Use in Agriculture - A South Australian Perspective |
| **2007** | |
| Nov 2007 | Sports Attendance in South Australia |
| | Recorded Crime — Victims, South Australia, 2006 |
| Oct 2007 | Attendance at Cultural Venues and Events by South Australians |
| Aug 2007 | Children's Participation in Cultural and Leisure Activities - South Australia, 2006 |
| Jul 2007 | South Australia's big picture: Census highlights the changes in South Australian society |
| | Participation in Sports and Physical Recreation Activities - South Australia |
| May 2007 | Health of South Australians - Body Mass |
| | Household Use of the Internet in South Australia |
| Apr 2007 | Employment in the Retail Trade Industry in South Australia |
| | River Murray - South Australia |
| Mar 2007 | Household Waste Management in South Australia |
| Feb 2007 | Births - South Australia |
| Jan 2007 | Gross Domestic Product and Gross State Product |
| **2006** | |
| Dec 2006 | Rainfall in South Australia, South Australian Reservoirs, Water Consumption |
| Nov 2006 | Health of South Australians - Health related actions |
| Oct 2006 | National Regional Profile - New Release, New Features |
| Sep 2006 | Fuel Production and Consumption, Greenhouse Gas Emissions, Land Use Change and Forrestry |
| Aug 2006 | Health of South Australians - Health Risk Behaviours |
| | The South Australian Grape Industry |
| Jul 2006 | Use of IT By Australian Businesses |
| | Household use of the Internet in South Australia |
| May 2006 | Health of South Australians - Health Status |
| Apr 2006 | International Trade in Services |

# About this Release

SA Stats provides an overview of the South Australian economy. The overview will be updated on a quarterly basis (in March, June, September and December) and in the intervening months the publication will include feature articles that provide a South Australian focus on economic, social and environmental issues.

Explanatory Notes are not included in SA Stats in the form found in other ABS publications. Readers are directed to the Explanatory Notes contained in related ABS publications (links to source documents are provided in the summary table).

Replaces: South Australian Economic Indicators (cat. no. 1307.4)

# South Australia's Mining Industry (Feature Article)

## SOUTH AUSTRALIA'S MINING INDUSTRY

### SUMMARY STATISTICS, South Australia

| | Mining Industry | All Industries | % | Period |
|---|---|---|---|---|
| Gross Value Added - Chain Volume Measures | $2 550m | $65 676m | 3.9 | 2006-07 |
| Value of Exports (a) | $2 345m | $9 015m | 26.0 | 2006-07 |
| Employed persons | 11 175 | 755 425 | 1.5 | 2006/07 |
| Average weekly full-time total earnings | $1 831 | $1 065 | n.a. | Aug 2007 |
| Mineral Exploration | $261m | n.a. | n.a. | 2006/07 |
| Petroleum Exploration | $161m | n.a. | n.a. | 2006/07 |
| Engineering Construction - private sector (b) | $667m | $1 606m | 41.5 | 2006/07 |
| Equipment, plant & machinery - private sector | $576m | $2 843m | 20.3 | 2006/07 |

(a) Includes ANZSIC Mining Division B and Manufacturing Groups 'Petroleum Refining, Petroleum and Coal Product Manufacturing n.e.c'. and 'Basic Non-Ferrous Metal Manufacturing' and referred to throughout this article as 'mining related commodity exports'.
(b) For the Engineering Construction Survey, the mining industry refers to the commodities 'Oil, gas and other hydrocarbons', 'Bauxite, Alumina and Aluminium', 'Coal and coal handling', 'Other minerals' and 'Other heavy industry'.
n.a. Not applicable

## SOUTH AUSTRALIA'S MINING INDUSTRY AND COMMODITIES PRODUCED

The Australian mining industry has experienced considerable growth over the last few years, driven by increasing world demand for our resources and rising commodity prices. This article provides an overview of the mining industry in South Australia including the types of commodities produced, the value of the industry, employment, wages, exploration and capital expenditure. The article presents an analysis of the industry from 1994-95 to 2006-07.

This article presents an analysis of the South Australian mining industry in the context of the state's biggest mine - Olympic Dam. Located 560kms north of Adelaide, Olympic Dam contains the world's fourth largest copper deposit and the world's largest uranium deposit (BHP Billiton, 2008). It also contains significant quantities of gold and silver. The mine began production in 1988 and has been expanded in several stages to its current production capacity of around 235,000 tonnes of copper and 4,600 tonnes of uranium each year. The owner of the mine, BHP Billiton, is currently undertaking prefeasibility studies for further expansion of the mine to more than double the current production capacity. Further information on the proposed Olympic Dam expansion is available from the BHP Billiton website <http://www.bhpbilliton.com>

Olympic Dam is a significant contributor to the total value of mining commodities produced in South Australia each year. In 2005-06, $1,360m worth of copper was produced in South Australia with virtually all of that coming from Olympic Dam (Geoscience Australia, 2007). Furthermore, $254m of uranium oxide was produced in South Australia in 2005-06, with 82% of that coming from Olympic Dam (Australian Uranium Association, 2008). South Australia produced 22% of total copper production in Australia in 2005-06, and 48% of all uranium oxide production.

### Table 1 SELECTED COMMODITIES PRODUCED - 2005-06

| | South Australia $m | Australia $m | South Australia % of Aust. Value |
|---|---|---|---|
| Metallic Minerals | | | |
| Copper (metal content) | 1 360 | 6 221 | 22 |
| Uranium Oxide | 254 | 530 | 48 |
| Iron Ore & concentrate | 198 | 13 155 | 2 |
| Gold (metal content) | 149 | 5 491 | 3 |
| Total metallics (a) | 1 981 | 36 349 | 5 |
| Fuel Minerals | | | |
| Crude Oil | 412 | 10 200 | 4 |
| Natural Gas | 347 | 2 466 | 14 |
| Condensate | 128 | 4 042 | 3 |
| Liquefied Petroleum Gas | 104 | 1 257 | 8 |
| Total Fuel Minerals (a) | 1 050 | 50 704 | 2 |
| Industrial Minerals | 102 | 3 074 | 3 |
| Construction Materials | 132 | 1 630 | *8* |
| **Total Mineral Commodities** | **3 265** | **91 757** | **4** |

(a) Includes other minerals not listed
Source: Mining Operations, Australia, 2005-06 (cat. no. 8415.0)

## GROSS VALUE ADDED

In 2006-07, the South Australian mining industry contributed $2,550m in original, chain volume terms, to Gross State Product. This was an increase of 3.6% from the $2,462m

gross value added in 2005-06. Over the last 12 years, the growth of the mining industry in South Australia has been below that of the wider South Australian economy. From 1994-95 to 2006-07, the gross value added of the mining industry increased 20.6% from $2,115m to $2,550m. The state's total GSP increased by 40.4% during this same period. However, from 1997-98 to 2006-07, the growth of the mining industry (21.4%) has been similar to that of the wider economy (25.5%)

The gross value added of the mining industry in South Australia appears to be linked with activity at Olympic Dam. As shown in Table 2, there was a period of significant growth in SA's mining industry from 1998-99 to 2000-01 with gross value added increasing 33%, compared to 9% for SA's total GSP. The rapid growth during this period coincides with a major expansion of operations at Olympic Dam. From 1997 to 2000, the operations of the mine were expanded to increase output from 84,000 tonnes of copper per annum to 200,000 t/a and from 1,500 t/a of uranium to 4,600 t/a (BHP Billiton, 2008).

**Table 2 GROSS VALUE ADDED, Chain Volume Measures, Original, South Australia**

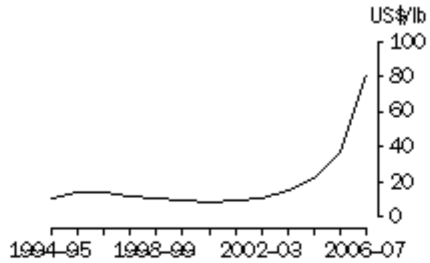
| | Mining GVA $m | Mining GVA % change | GSP $m | GSP % change | Mining % of GSP |
|---|---|---|---|---|---|
| 1994-95 | 2 115 | -1.5 | 46 784 | 2.1 | 4.5 |
| 1995-96 | 2 120 | 0.3 | 49 212 | 5.2 | 4.3 |
| 1996-97 | 2 163 | 2.0 | 50 139 | 1.9 | 4.3 |
| 1997-98 | 2 100 | -2.9 | 52 344 | 4.4 | 4.0 |
| 1998-99 | 2 236 | 6.5 | 53 984 | 3.1 | 4.1 |
| 1999-2000 | 2 487 | 11.2 | 55 039 | 2.0 | 4.5 |
| 2000-01 | 2 794 | 12.3 | 57 042 | 3.6 | 4.9 |
| 2001-02 | 2 441 | -12.6 | 59 491 | 4.3 | 4.1 |
| 2002-03 | 2 320 | -5.0 | 60 315 | 1.4 | 3.8 |
| 2003-04 | 2 288 | -1.4 | 62 912 | 4.3 | 3.6 |
| 2004-05 | 2 641 | 15.4 | 63 640 | 1.2 | 4.1 |
| 2005-06 | 2 462 | -6.8 | 65 177 | 2.4 | 3.8 |
| 2006-07 | 2 550 | 3.6 | 65 676 | 0.8 | 3.9 |

Source: Australian National Accounts: State Accounts, 2006-07 (cat. no. 5220.0)

## COMMODITY PRICES

When analysing the value of the mining industry, it is important to consider the influence of commodity prices. In recent years, there have been significant price increases for most commodities including copper, uranium, gold and crude oil. For example, the price of copper has increased from US$2,766 tonne in 1994-95 to US$7,087 tonne in 2006-07, while uranium increased from US$10.17 lb to US$81.17 lb during the same period (ABARE, 2007). The increases in commodity prices are a major factor when assessing the mining industry over recent years. As demonstrated further in this article, the commodity price rises have contributed to the increase in the value of mining exports from South Australia and have given businesses extra incentive to increase exploration for new mineral and petroleum deposits.

**Copper** **Uranium**


**Crude Oil**

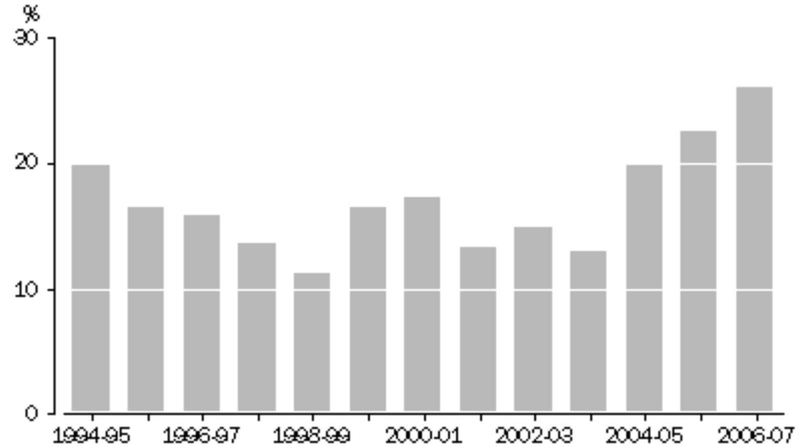

**Gold**


Source: ABARE, Australian Mineral Statistics 2006-07

## EXPORTS

The value of mining related commodity exports from South Australia in 2006-07 was $2,345m, which was 26% of the total value of exports from South Australia. This proportion has doubled over the last few years from 13% in 2003-04 to 26% in 2006-07. The value of mining exports increased from $979m to $2,345m during this period while the value of total exports increased from $7,608m to $9,015m. The main mining related commodity class exported from South Australia in 2006-07, according to ANZSIC, was 'Copper, Silver, Lead and Zinc Smelting, Refining' with $1,843m.

**MINING RELATED COMMODITY EXPORTS AS A PROPORTION OF TOTAL EXPORTS, South Australia (a)(b)**




(a) Where the final stage of production or manufacture occurs in South Australia
(b) Includes ANZSIC Mining Division B and Manufacturing Groups 251 Petroleum Refining, 252 Petroleum and Coal Product Manufacturing n.e.c. and 272 Basic Non-Ferrous Metal Manufacturing.
Source: ABS data available on request, International Trade in Goods and Services, Australia (cat. no. 5368.0)

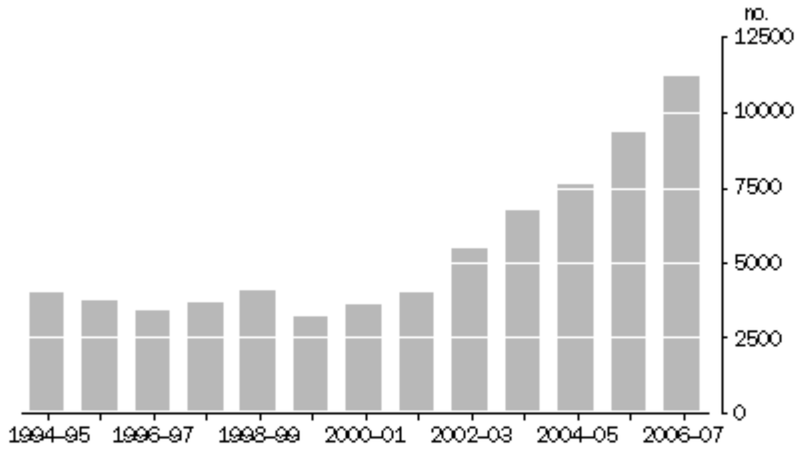
## EMPLOYMENT

The average annual number of people employed in the mining industry in South Australia has increased steadily from 3,175 in 1999-2000 to 11,175 in 2006-07. Employment in the

mining industry is dominated by male workers. Of the 11,175 people employed in 2006-07, 77% (or 8,625) were males.

It is commonly reported that employment in the mining industry will continue to increase in the coming years due to the proposed expansion of Olympic Dam. About 3,000 people currently work at Olympic Dam, and this number is expected to increase when the mine is expanded to more than double its current production capacity (BHP Billiton, 2008).

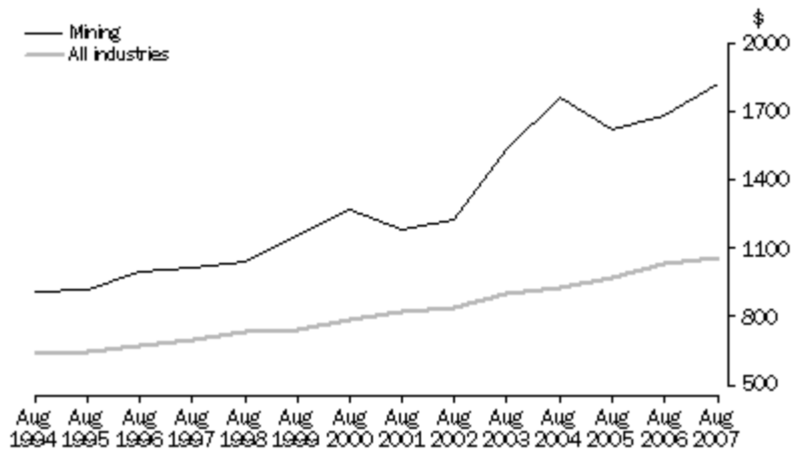
**EMPLOYMENT IN THE MINING INDUSTRY, South Australia (a)**




(a) average of four quarters
Source: Labour Force, Australia, Detailed, Quarterly (cat. no. 6291.0.55.003)

People employed in the South Australian mining industry earn considerably more money than the average South Australian worker. In August 2007, the average weekly full-time adult total earnings for a person employed in the mining industry was $1,831. The average for all South Australians was $1,065. Mining wages have also grown at a faster rate than the average South Australian wage. Since August 1994, the average weekly full-time adult total earnings for a person employed in the mining industry has doubled from $913 to $1,831, whereas the average for all South Australians increased by 67% from $637 to $1,065.

**FULL-TIME ADULT TOTAL EARNINGS, Original, South Australia**




Source: ABS data available on request, Average Weekly Earnings, Australia (cat. no. 6302.0)

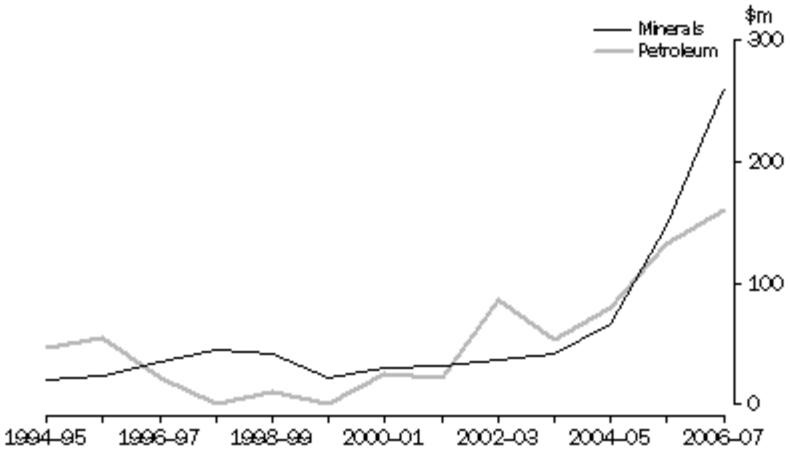
## Mineral & Petroleum Exploration

South Australia has experienced considerable growth in mineral and petroleum exploration over the last two years. In 2006-07, the value of expenditure on mineral exploration was $261m, up from $67m in 2004-05. Most of the growth in mineral exploration in South

Australia has been due to increased exploration for copper and uranium. Of the $261m spent exploring for mineral deposits in 2006-07, $115m was spent exploring for copper and a further $64m for uranium. South Australia's Strategic Plan has set a target for minerals exploration to be maintained in excess of $100m per annum until 2010.

Expenditure on exploration for petroleum has also increased substantially over recent years. In 2003-04, the value of expenditure on petroleum exploration was $53m. In 2006-07, this had risen to $161m. Most petroleum exploration in Australia occurs in Western Australia. In 2006-07, $1,481m was spent exploring for petroleum in Western Australia, most of which was offshore.

**MINERAL AND PETROLEUM EXPLORATION, Current Prices, Original, South Australia**




Source: Mineral and Petroleum Exploration, Australia (cat. no. 8412.0)

## EXPENDITURE ON MINING EQUIPMENT AND INFRASTRUCTURE

Capital expenditure in the mining industry has fluctuated over the last decade and has been significantly influenced by expenditure at Olympic Dam. The spike in expenditure on equipment, plant and machinery in 1997/98, as shown in the graph below, coincides with the expansion of Olympic Dam when production capacity was increased from 84,000 tonnes of copper per annum to 200,000 t/a (BHP Billiton, 2008). The proposed further expansion of Olympic Dam is likely to significantly affect the level of engineering construction and capital expenditure on equipment, plant and machinery in coming years.

The value of engineering construction in the South Australian mining industry increased sharply in 2006-07 to $667m. There were several major mining related projects under construction in 2006-07 including the Prominent Hill project and Project Magnet at Whyalla. The copper and gold deposit at Prominent Hill is located 650kms north west of Adelaide. The mine was discovered in 2001, with development beginning in 2006. The mine is expected to be in production by the end of 2008.

**EXPENDITURE ON MINING EQUIPMENT AND INFRASTRUCTURE, Current Prices, Original, South Australia**


Sources: ABS data available on request, Private New Capital Expenditure and Expected Expenditure, Australia (cat. no. 5625.0); Engineering Construction Activity, Australia (cat. no. 8762.0).

### CONCLUSION

While Western Australia, Queensland and the Northern Territory have been the main beneficiaries in Australia of the current global 'mining boom', the mining industry in South Australia is also undergoing a period of growth. There have been recent increases in the number of people employed in the industry as well as the value of mining exports from South Australia. The recent increase in expenditure on exploration for new mineral and petroleum deposits provides strong impetus for further growth of the industry. As demonstrated throughout this article, Olympic Dam is a critical component of the mining industry in South Australia.

### REFERENCES

ABARE (Australian Bureau of Agricultural and Resource Economics) 2007, *Australian Mineral Statistics*, June quarter 2007
ABS (Australian Bureau of Statistics), Australian and New Zealand Standard Industrial Classification, 1993, cat. no. 1292.0.15.001
ABS, Australian National Accounts: State Accounts, 2006-07, cat. no. 5220.0
ABS, Average Weekly Earnings, Australia, cat. no. 6302.0
ABS, Engineering Construction Activity, Australia, cat. no. 8762.0
ABS, International Trade in Goods and Services, Australia, cat. no. 5368.0
ABS, Labour Force, Australia, Detailed, Quarterly, cat. no. 6291.0.55.003
ABS, Mineral and Petroleum Exploration, Australia, cat. no. 8412.0
ABS, Mining Operations, Australia, 2005-06, cat. no. 8415.0
ABS, Private New Capital Expenditure and Expected Expenditure, Australia, cat. no. 5625.0
Australian Uranium Association, 2008, *Australia's Uranium Mines*, viewed 1 February 2008, <http://www.uic.com.au/>
BHP Billiton 2008, *Olympic Dam Expansion*, viewed 13 February 2008, <http://odx.bhpbilliton.com/>
Geoscience Australia 2007, *Australia's Identified Mineral Resources*, 2007

# Water Supply in South Australia (Feature Article)

### WATER SUPPLY IN SOUTH AUSTRALIA

## INTRODUCTION

This article examines South Australia's supply of water for the years 2000-01 and 2004-05 with reference to strategies for meeting Adelaide's future water requirements.

The main source of data is the ABS publication Water Account, Australia, 2004-05 (cat. no. 4610.0) which provides water supply and use details for all states and territories for the periods 2000-01 and 2004-05. Supplementary data for South Australia were obtained from annual reports of SA Water and the Murray-Darling Basin Commission (MDBC). SA Water is the principal supplier of water to the Adelaide metropolitan area and country centres. The MDBC provides data relating to South Australia's extraction of water from the River Murray.

The article is structured under the following headings (definitions were obtained from Water Account, Australia, 2004-05 (cat. no. 4610.0)).

### Water extracted from the environment

(a) **self-extracted water** - water extracted directly from the environment for use; includes water from surface water (rivers, lakes, farm dams), groundwater (wells, bores and springs) and other water bodies (rainwater tanks).

(b) **distributed water** is a sub-set of self-extracted total. It is the water supplied to a user usually through a non-natural network (piped or open channel) and where an economic transaction has occurred for the exchange of this water. Water supplied by irrigation water providers via natural waterways and bores is considered to be distributed water.

### Reuse and recycled water

(c) **reuse water** - drainage, waste or storm water supplied to a user without first being discharged to the environment. Reuse water is largely supplied by the wastewater (sewage) treatment plants of the Water supply, sewerage and drainage industry. This water may have been treated to some extent before supply. It excludes on-site recycling.

(d) **recycled water** - any water that is reused by the same organisation on-site after it has been used once. This includes on-farm reuse and the recycling of water in manufacturing processes.

### Water distribution losses

Water that enters the water distribution system of a water provider that does not reach the end users/consumers. Water can be lost by seepage, leakage, evaporation (excluding evaporation from water storages), meter inaccuracies and theft.

Please refer to Figure 1 presented at the end of the article for a summary of water supply and use in the South Australian economy.

## OVERVIEW

In 2004-05, 1,352 GL of water was extracted from the environment in South Australia. This

was slightly down (by 2%) from the 1,380 GL extracted in 2000-01 (Table 1). Of the water extracted from the environment in 2004-05, 461 GL was supplied to users as distributed water. The volume of distributed water supplied in 2004-05 was down (by 11%) from the 517 GL supplied in 2000-01. This mirrored the trend across the country in which the supply of distributed water decreased by 12% between 2000-01 and 2004-05. The decrease in the supply of distributed water could be largely attributed to drier (drought) conditions in the State and the resultant water restrictions. For reuse water, a considerable increase (26%) was observed in the supply of reuse water in South Australia between 2000-01 and 2004-05, whereas a decrease (16%) was observed at the national level.

**Table 1. WATER SUPPLY, South Australia and Australia - 2000-01 and 2004-05**

| | SOUTH AUSTRALIA | | | AUSTRALIA | | |
|---|---|---|---|---|---|---|
| | 2000-01 (GL) | 2004-05 (GL) | % Change | 2000-01 (GL) | 2004-05 (GL) | % Change |
| **Water Type** | | | | | | |
| Self-extracted water | 1,380 | 1,352 | -2% | 76,668 | 79,784 | 4% |
| Distributed water | 517 | 461 | -11% | 12,934 | 11,337 | -12% |
| Reuse water | 18 | 22 | 26% | 507 | 425 | -16% |

Source: Water Account, Australia 2004-05 (cat. no. 4610.0)

## WATER EXTRACTED FROM THE ENVIRONMENT

### Self-extracted water

In contrast to the national level, in which the volume of water extracted from the environment increased by 4% between 2000-01 and 2004-05, a decrease of 2% was observed in South Australia. For South Australia in 2000-01 and 2004-05, the two main industries extracting water from the environment were Agriculture and the Water supply, sewerage and drainage services industry (Table 2). In 2004-05, Agriculture extracted 60% percent of all water taken from the environment in South Australia (58% in 2000-01) followed by Water supply, sewerage and drainage services with 34% (38% in 2000-01). At the national level, the two main industries extracting water were Electricity and gas followed by Water supply, sewerage and drainage services, extracting 60,172 GL (75%) and 11,160 GL (14%) in 2004-05 respectively. The majority of water used by the Electricity and gas industry at the national level was used for hydro-electric power generation. No hydro-electric power generation is undertaken in South Australia.

**Table 2. SELF-EXTRACTED WATER, South Australia and Australia - 2000-01 and 2004-05**

| | SOUTH AUSTRALIA | | | AUSTRALIA | | |
|---|---|---|---|---|---|---|
| | 2000-01 (GL) | 2004-05 (GL) | % Change | 2000-01 (GL) | 2004-05 (GL) | % Change |
| **Water User** | | | | | | |
| Agriculture | 790 | 807 | 2% | 7,532 | 6,582 | -13% |
| Electricity and gas | 0.6 | 0.3 | -50% | 54,677 | 60,172 | 10% |
| Water supply, sewerage and drainage services | 517 | 461 | -11% | 12,915 | 11,160 | -14% |
| Other (a) | 72 | 84 | 16% | 1,544 | 1,870 | 21% |

| | | | | | | |
|---|---|---|---|---|---|---|
| Total | 1,380 | 1,352 | -2% | 76,668 | 79,784 | 4% |

(a) All other industries and households
Source: Water Account Australia, 2004-05 (cat. no. 4610.0)

Drought conditions were largely responsible for the decline in the total volume of water extracted from the environment in South Australia between 2000-01 and 2004-05. The impact in South Australia was mainly observed in the Water supply, sewerage and drainage services industry, where the volume of water decreased by 11% between 2000-01 and 2004-05 (Table 2).

## Distributed water

The principal suppliers of distributed water in Australia are units categorised to the Water supply industry. In South Australia, almost all distributed water is supplied by this industry. The main water providers in South Australia are SA Water and irrigation providers (irrigation trusts). The water delivered by SA Water is obtained from reservoirs, the River Murray and groundwater (bores/well). The irrigation water providers distribute water to South Australian irrigators and other rural customers. They extract water from groundwater sources (e.g. the South East (SA) system) and rivers, principally the River Murray (e.g. the Central Irrigation Trust, Lower Murray system) (Australian National Committee on Irrigation and Drainage (ANCID) 2006).

In South Australia, 461 GL of water was distributed by water providers in 2004-05, which represented 34% of the water extracted from the environment. The majority (444 GL or 96%) of South Australia's distributed water supply was obtained from surface water (rivers, reservoirs, dams, lakes) and 17 GL (4%) was extracted from groundwater sources in 2004-05. Similarly, most (96%) of Australia's distributed water originated from surface water sources. Of the 448 GL of groundwater extracted in Australia for supply in 2004-05, 230 GL was extracted in Western Australia.

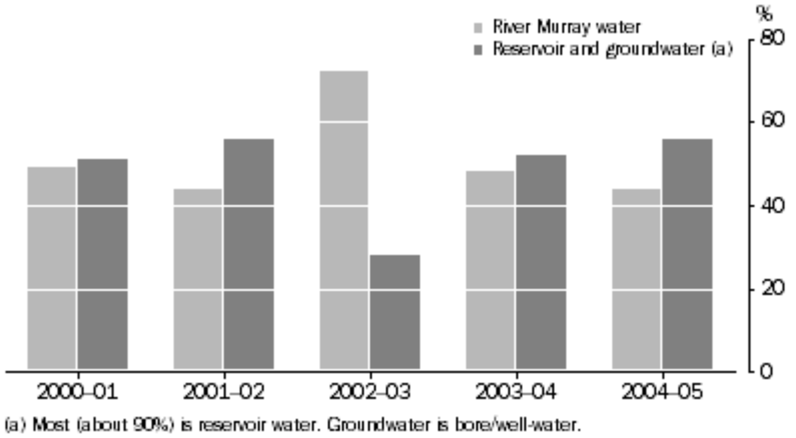
In South Australia, SA Water provided 251 GL of water to customers (SA Water 2005a), accounting for 54% of the State's distributed water deliveries in 2004-05. Irrigation water providers accounted for the remaining 44%.

## SA Water

About 50% (126 GL) of the water provided by SA Water in 2004-05 was obtained from reservoirs; 44% (111 GL) was extracted from the River Murray; and groundwater (bores/wells) extractions provided 6% (SA Water 2005a). Graph 1 shows the proportions of water extracted by SA Water from the River Murray and reservoirs and groundwater sources for the years 2000-01 to 2004-05. The year 2002-03 was a drought year in South Australia, and it is notable that 72% (203 GL) of SA Water's supply was sourced from the River Murray for that period (SA Water 2003a).

In 2003, Adelaide residents faced the first compulsory water restrictions imposed since the opening of the Mannum to Adelaide pipeline in 1955 (Water Proofing Adelaide (WPA) 2005a). This was part of the South Australian Government’s Water Proofing Adelaide (WPA) Strategy that aimed to ensure sufficient mains water supplies could meet essential water demand during major droughts without extreme water restrictions.

**Graph 1. SA WATER, Sources of Water - 2000-01 to 2004-05**




Sources: SA Water 2001, SA Water 2002, SA Water 2003a PDF (3.5 MB), SA Water 2004 PDF (4.1 MB), SA Water 2005a PDF (4.1 MB)

### Irrigation water providers

South Australian irrigation water providers distributed 204 GL of water to South Australian irrigators and other rural customers in 2004-05. This represented 44% of South Australia's distributed water supply and 0.3% of the corresponding national total (6,637 GL). Water was mainly extracted from groundwater sources (e.g. the South East (SA) system) and rivers, principally the River Murray (e.g. the Central Irrigation Trust, Lower Murray system) (ANCID 2006).

## REUSE WATER

### Reuse of wastewater

Between 1996-97 and 2004-05 the supply of reuse water in South Australia more than doubled, from 8 GL to 22 GL; nationally the increase more than trebled, from 134 GL to 425 GL. In 2004-05, almost all (21 GL out of 22 GL) of South Australia's reuse water was supplied by the Water supply, sewerage and drainage industry, with 20 GL derived from wastewater treatment. SA Water operated 24 wastewater treatment plants in 2004-05, delivering 20 GL to irrigators (both for agriculture and community resources such as parks, sporting grounds) in the Adelaide Metropolitan area and 1.4 GL to country users (SA Water 2005b).

Graph 2 shows the volume of annual reuse water supplied by SA Water's metropolitan area wastewater treatment plants for the period 2001-02 to 2004-05 (data were not available for 2000-01). Between 2001-02 and 2004-05 the volume of water supplied as reuse increased from 14 GL per annum to 20 GL, an increase of 41%. In 2004-05, the 20 GL of reused wastewater represented 21% of the annual effluent production; in 2001-02 this proportion was 15%.

**Graph 2. REUSE WATER SUPPLY, Adelaide metropolitan area - 2000-01 to 2004-05**

Source: SA Water 2003b PDF (1.7 MB), SA Water 2005b PDF (2.6 MB)

It is estimated that 70 GL of the 90 GL of wastewater that is generated in Adelaide each year is discharged into the sea. About a half (or more) of the fresh water consumed by Adelaide households is returned to sewers from toilets, showers and washing machines (WPA 2005a). One desired key outcome of the WPA Strategy is for Adelaide's use of recycled wastewater to grow from the 14 GL per annum of 2001-02 to 30 GL per annum by 2025. This could be achieved by expanding or developing further large-scale recycled water schemes.

The WPA Strategy asserts that the planned increase in the use of recycled water by the main consumers (irrigators) would reduce the strain on Adelaide's groundwater supplies given that most of the groundwater resources in and around Adelaide are either fully allocated, or even over-allocated (WPA 2005a).

### Stormwater and rainwater

In 2005, the capture and use of stormwater (and rainwater) was estimated at between 3 and 5 GL per year (WPA 2005a). Stormwater recycling schemes are currently operated by the City of Salisbury and the Morphettville Racecourse. The key outcome for stormwater/rainwater use is for the utilisation of 20 GL per year by 2025. Part of the strategy for achieving this goal is the requirement for all new homes in South Australia (from July 2006) to have a rainwater tank plumbed into the house for some domestic uses. At March 2004, South Australia had the highest proportion (48%) of households with rainwater tanks compared to the Australian average of 17%. It should be noted that in the publication Water Account, Australia, 2004-05 (cat. no. 4610.0), use of rainwater by households is included with self-extracted water. The actual volume of rainwater used by households is difficult to quantify and has not been separately reported.

SA Water is a partner in the Mawson Lakes residential third pipe scheme where recycled wastewater from the Bolivar wastewater Treatment Plant is combined with captured stormwater from the Salisbury area to provide an alternative supply for irrigation of gardens and open space areas, as well as toilet flushing (SA Water 2005b).

## WATER DISTRIBUTION LOSSES

It was estimated that, in 2004-05, about 15% (71 GL) of South Australia's distributed water was lost through the supply infrastructure (underground pipe leakages, burst mains, evaporation from open channels), theft and customer meter errors. The greatest losses occurred in the distribution of water to irrigation/rural water users, where 40 GL, or 20% of

the supply was lost. Nationally, the total losses were estimated to be 2,022 GL (18%) of distributed water, with irrigation/rural losses of 1,500 GL (23% of this supply).

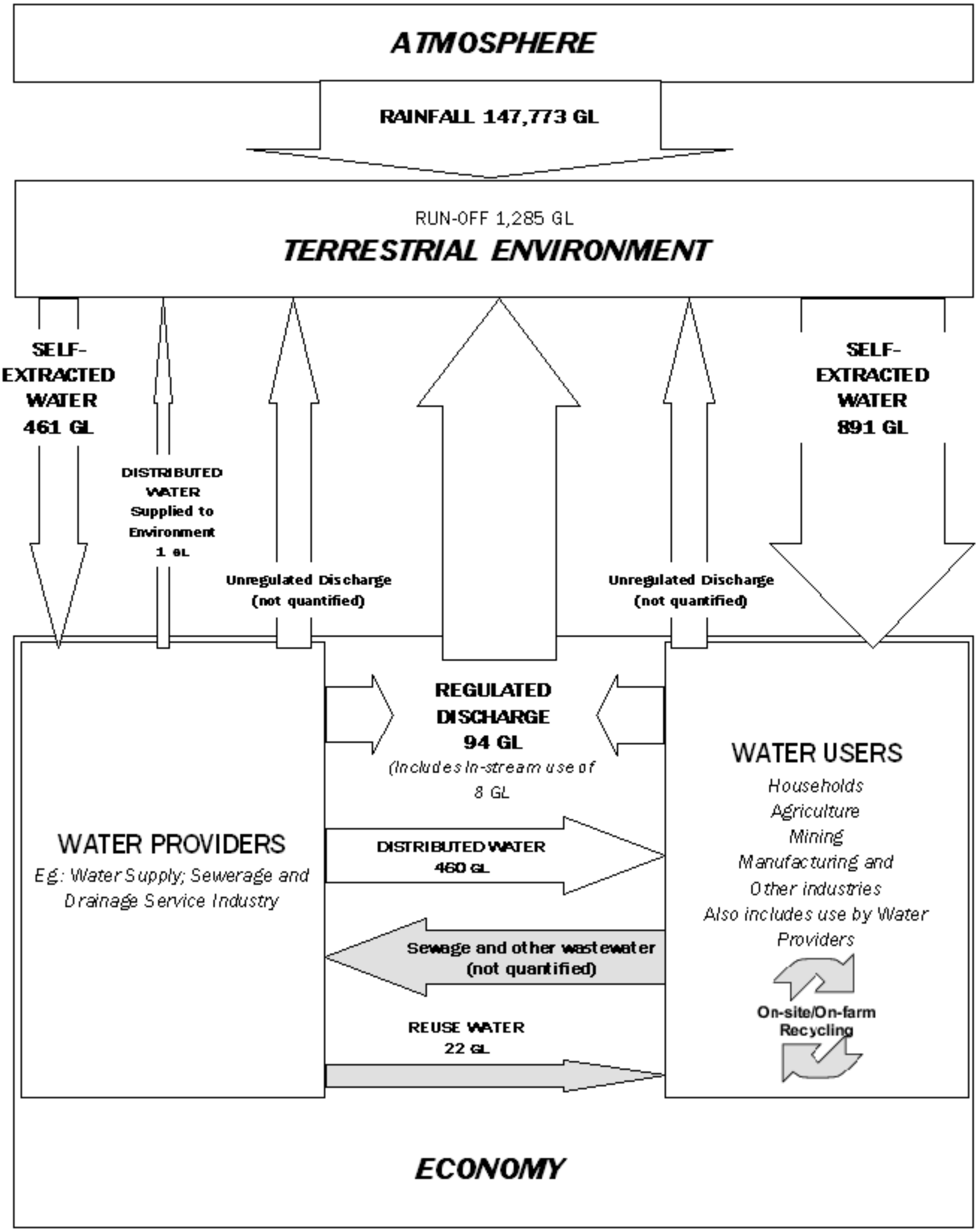
SA Water has introduced a leakage reduction program and the State's leakage rate is recognised as one of the lowest in the world (WPA 2005a). Water lost by evaporation from reservoirs in 2002-03 was estimated at 26 GL; as part of the WPA Strategy, emerging technologies (including chemical films) will be assessed as agents for reducing evaporative losses from reservoirs. SA Water is also undertaking a water meter replacement program to reduce leakage and to provide better water usage data for householders and SA Water.

Various programs are currently in place to manage, conserve and develop South Australia's water resource. Strategies for meeting the future water requirements of Adelaide and its environs are outlined in the South Australian Government’s 20-year water plan Water Proofing Adelaide - A Thirst for Change 2005-2025 (PDF (2 MB)). This plan was launched in October 2003 in recognition of the need to address challenges to Adelaide’s water supply and aims at management of existing water resources, responsible water use, and the development of additional water supplies to ensure adequate supplies to satisfy a growing population and economic development.

In partnership with other state governments, South Australia has also committed to the Department of the Environment, Water and the Arts' Living Murray initiative with a view to securing 500 GL of water to improve the health of the Murray-Darling Basin by 2009. The River Murray Levy, which was introduced by the South Australian Government in 2003, is to be used for programs to improve the health of the River Murray; for example, salt interception schemes and permanent return of water to the River.

Coupled with the management measures will be State Government strategies to make further gains in water use efficiency by households, industrial and commercial users, agricultural users, and in public facilities (community purposes) such as parks, gardens and ovals. Key targets include reducing per capita household water use by 22% by 2025; reducing industrial and commercial use of water by 10%; and reducing community purposes mains water use by 12%. Under the State Government's Water Allocation Plan, irrigators are expected to raise their efficiency of water use to 85%.

**FIGURE 1 WATER SUPPLY AND USE IN THE SOUTH AUSTRALIAN ECONOMY - 2004-05**




Source: Water Account, Australia 2004-05 (cat. no. 4610.0)

## REFERENCES

Australian Bureau of Statistics (ABS) 2006, Water Account for Australia 2004-05, (cat no. 4610.0), viewed 1 February 2008

Australian National Committee on Irrigation and Drainage 2006, Australian Irrigation Water

Provider Benchmarking Data Report for 2004-2005, Australian National Committee on Irrigation and Drainage, Canberra

Murray-Darling Basin Commission (MDBC) 2002, Water Audit Monitoring Report 2000-01 Report of the Murray-Darling Basin Commission on the Cap on Diversions, Murray-Darling Basin Commission, Canberra, PDF (1.4 MB), viewed 2 February 2008

Murray-Darling Basin Commission (MDBC) 2003, Water Audit Monitoring Report 2001-02 Report of the Murray-Darling Basin Commission on the Cap on Diversions, Murray-Darling Basin Commission, Canberra, PDF (1.3 MB), viewed 2 February 2008

Murray-Darling Basin Commission (MDBC) 2004, Water Audit Monitoring Report 2002-03 Report of the Murray-Darling Basin Commission on the Cap on Diversions, Murray-Darling Basin Commission, Canberra, PDF (1.1 MB), viewed 2 February 2008

Murray-Darling Basin Commission (MDBC) 2005, Water Audit Monitoring Report 2003-04 Report of the Murray-Darling Basin Commission on the Cap on Diversions, Murray-Darling Basin Commission, Canberra, PDF (1.2 MB), viewed 2 February 2008

Murray-Darling Basin Commission (MDBC) 2006, Water Audit Monitoring Report 2004-05 Report of the Murray-Darling Basin Commission on the Cap on Diversions, Murray-Darling Basin Commission, Canberra, PDF (1.3 MB), viewed 2 February 2008

SA Water 2001, Annual Report 2000-01, SA Water, Adelaide

SA Water 2002, Annual Report 2001-02, SA Water, Adelaide

SA Water 2003a, Annual Report 2002-03, SA Water, Adelaide, PDF (3.5MB), viewed 1 February 2008

SA Water 2003b, 2003 Sustainability Report, SA Water, Adelaide, PDF (1.7MB), viewed 1 February 2008

SA Water 2004, Annual Report 2003-04, SA Water, Adelaide, PDF (4.1 MB), viewed 1 February 2008

SA Water 2005a, Annual Report 2004-05, SA Water, Adelaide, PDF (4.1MB), viewed 1 February 2008

SA Water 2005b, 2004-05 Sustainability Report, SA Water, Adelaide, PDF (2.6MB), viewed 1 February 2008

Water Proofing Adelaide 2005a, Water Proofing Adelaide: A thirst for change 2005-2025, Water Proofing Adelaide, Adelaide, PDF (2 MB), viewed 1 February 2008

Water Proofing Adelaide 2005b, A thirst for change: Water Proofing Adelaide 2005-2025 A blueprint for the management, conservation and development of Adelaide's water resources to 2025, Water Proofing Adelaide, Adelaide, PDF (1.2 MB), viewed 2 February 2008